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ECONOMIC BENEFITS OF MDOC HOUSING PROGRAM ACTIVITIES

Prepared in Conjunction with the
Montana Consolidated Plan Update
For Plan Year Beginning
April 1, 2003

FINAL REPORT

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Economic Benefits of MDOC Housing Program Activities

Information in Support of the Montana Consolidated Plan
For Plan Year Beginning
April 1, 2003

FINAL REPORT

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Montana Department of Commerce

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EXECUTIVE SUMMARY
ECONOMIC BENEFITS OF MDOC HOUSING PROGRAMS

The Montana Department of Commerce (MDOC) administers several programs that subsidize rents or grant or loan funds to individuals, local governments, and nonprofit agencies for investment in housing development and activities throughout the State. These programs are: Tenant and Project Based Section 8 Rental Assistance Programs, HOME Investment Partnerships (HOME) Program, the Community Development Block Grant (CDBG) Program, and activities of the Montana Board of Housing (MBOH). Such investments contribute significantly to the State's economy, helping to create decent paying jobs, and in turn, increasing income tax revenues and property tax receipts.

The MDOC has determined the economic benefits generated by these investments over the last eighteen years by the use of an economic model that calculates employment, personal income, and income and property taxes paid as a result of each program investment. The model then computes secondary economic impacts, as the initial investment circulates through the State's economy. This represents additional employment, income, and tax effects.

From 1985 through 2002, MDOC Housing programs have distributed nearly $1.6 billion, creating over 34,567 jobs, over $910 million of personal income, over $21.1 million of State income tax revenues, and in excess of $170.2 million of State and local property tax receipts, as seen in Table A.

TABLE A
TOTAL ECONOMIC BENEFITS
MDOC HOUSING PROJECTS

Year	Market Value of Program Investments	Income $	Jobs Produced Annually	Income Tax Revenues $	Property Tax Receipts $
1985	117,332,091	50,667,573	2,860	2,482,910	1,097,951
1986	80,748,050	39,153,853	1,999	1,760,888	1,819,830
1987	25,076,597	21,212,331	835	770,468	2,196,614
1988	50,912,832	32,203,080	1,423	684,146	2,570,629
1989	58,113,193	34,657,862	1,486	684,940	3,348,552
1990	47,302,660	32,100,799	1,258	604,130	4,415,104
1991	75,817,899	42,394,822	1,720	855,712	5,444,898
1992	66,531,382	40,671,221	1,532	792,353	6,368,753
1993	40,644,116	34,147,346	1,107	643,864	7,118,397
1994	42,000,741	38,838,117	1,243	639,300	7,876,348
1995	98,110,805	54,794,070	2,060	1,053,122	9,376,555
1996	72,376,850	41,063,411	1,517	812,097	10,744,815
1997	119,617,640	65,024,821	2,397	1,286,917	12,424,040
1998	115,937,720	61,949,848	2,225	1,262,956	14,203,959
1999	116,640,541	63,004,204	2,255	1,349,749	16,288,228
2000	149,619,980	77,182,717	2,733	1,665,681	19,267,480
2001	145,378,016	74,912,188	2,616	1,616,986	21,575,626
2002	171,352,149	107,019,509	3,299	2,152,517	24,106,049
SUM OF BENEFITS	**1,593,513,262**	**910,997,772**	**34,567**	**21,118,737**	**170,243,828**

In 2001 and 2002, more than $316.7 million was spent to improve housing, thereby stimulating Montana's economy[1]. Because of these expenditures:

- Personal income rose $182.1 million
- More than 5,900 jobs were created
- Montana income tax revenue rose by more than $3.7 million
- Montana property tax receipts increased by some $45.6 million

However, the beneficial effects of these programs are not just limited to economic improvements for Montanans. MDOC housing projects improve the quality of life of Montanans by increasing the availability of decent, safe, affordable housing and enhancing the worth of the living environment for all Montanans. Together, these activities have and will continue to impart significant long-term benefits to Montana and its citizens.

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[1] This study, conducted in 1996, 1998, and 2000, has previously computed the combined impacts of MDOC's infrastructure and economic development programs. However, these were not calculated for the analysis contained herein.

INTRODUCTION

The *Economic Benefits of MDOC Housing Program Activities* report is the biennial update of an economic benefits analysis first introduced in 1996. Data presented herein documents program expenditures from 1985 through 2002, and, whenever possible, according to the Consolidated Plan program plan year, which ends March 31st each year[2].

The analysis incorporates several housing programs: Section 8 Tenant and Project Based Rental Assistance Programs, the HOME Investment Partnerships (HOME) Program, Community Development Block Grant (CDBG) Programs (housing only), the Montana Board of Housing (MBOH) Single-Family Mortgage Loan and Multi-Family Housing Rental programs, and Low Income Housing Tax Credit Program. There are many qualifying program expenditures. Examples include housing construction, home repair, tenant based rental assistance, Section 8 Housing Choice Vouchers, Project Based Section 8 Rental Assistance, and tax credits for particular types of lower income housing.

The economic benefits are not uniform across all these activities. Generally speaking, program expenditures are divided into two very broad categories: income transfers and physical capital projects. Income transfers, such as those in the Section 8 and HOME tenant based rental assistance, act as a direct economic stimulus, and can be measured as increases to both personal and state income as well as non-basic jobs. Other projects, such as housing or multi-family development, include capital expenditures and thereby have less impact per dollar of expenditure. However, these investments generally continue to reap benefits much further into the future.

Results of this analysis are presented up front in the main body of the report, with each type of program activity highlighted. Appendix A offers a technical overview of the methodology. It also documents program investment by type of MDOC housing program activity. Appendix B is a quantitative and technical discussion presenting the model's theoretical approach and its inputs, parameters, and assumptions.

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[2] In 1995, MDOC elected to re-define the Consolidated Plan year from ending September 30 to ending March 31. Hence the first consolidated plan period extended from October 1, 1993, to March 31, 1995 (a period of 18 months). Program expenditure levels and periods reported herein make various adjustments to this particular period of time.

ECONOMIC BENEFITS OF MDOC HOUSING PROGRAMS

The Montana Department of Commerce (MDOC) administers several programs that invest funds in housing development throughout the State. Further, the MDOC has evaluated the economic benefits imparted by all the Section 8 Tenant and Project Based Rental Assistance Programs, Montana Board of Housing, HOME Investment Partnerships (HOME) Program, and housing portions of the Community Development Block Grant (CDBG) Program.

The analysis measures the initial infusion of funds into the economy and then computes secondary reactions caused by the expenditures. This is completed by calculating two types of impact: basic and non-basic. Basic industries are those economic activities that cause money to flow into Montana, in exchange for the export of a good or service. A secondary benefit is realized when this money is re-spent in Montana, generating additional employment and income. This secondary benefit is called the non-basic impact. Non-basic impacts will rise and fall with the level of basic activity. Still, all persons employed in bringing the projects to fruition in turn pay income taxes to the State. Additionally, properties developed under the programs generate property tax revenues for the State. Hence, the economic benefits analysis measures four areas of economic impact: jobs, personal income, income tax revenues, and property tax receipts.

Table 1 presents the economic benefits associated with MDOC housing programs. The impacts are compelling and significant. Over the last eighteen years, MDOC housing programs have distributed almost $1.6 billion in investments. Such spending has created over 34,560 jobs, with $910 million of personal income earned, the State receiving over $21.1 million in income tax revenues and another $170.2 million of state and local property tax receipts.

TABLE 1
TOTAL ECONOMIC BENEFITS
MDOC HOUSING PROJECTS

Year	Market Value of Program Investments	Basic and Non-basic Income $	Basic and Non-basic Employment	Income Taxes Paid $	Property Taxes Paid $
1985	117,332,091	50,667,573	2,860	2,482,910	1,097,951
1986	80,748,050	39,153,853	1,999	1,760,888	1,819,830
1987	25,076,597	21,212,331	835	770,468	2,196,614
1988	50,912,832	32,203,080	1,423	684,146	2,570,629
1989	58,113,193	34,657,862	1,486	684,940	3,348,552
1990	47,302,660	32,100,799	1,258	604,130	4,415,104
1991	75,817,899	42,394,822	1,720	855,712	5,444,898
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1995	98,110,805	54,794,070	2,060	1,053,122	9,376,555
1996	72,376,850	41,063,411	1,517	812,097	10,744,815
1997	119,617,640	65,024,821	2,397	1,286,917	12,424,040
1998	115,937,720	61,949,848	2,225	1,262,956	14,203,959
1999	116,640,541	63,004,204	2,255	1,349,749	16,288,228
2000	149,619,980	77,182,717	2,733	1,665,681	19,267,480
2001	145,378,016	74,912,188	2,616	1,616,986	21,575,626
2002	171,352,149	107,019,509	3,299	2,152,517	24,106,049
TOTAL BENEFITS	**1,593,513,262**	**910,997,772**	**34,567**	**21,118,737**	**170,243,828**

In 2001 alone, over $74.9 million in total income was generated through the creation of 2,616 jobs. In 2002, investments generated over $107 million in income through the creation of 3,299 jobs. For this two-year period, the State is expected to collect more than $3.7 million in income taxes and $45.6 in property taxes, with $24.1 million in 2002 alone. The beneficial economic characteristics of these MDOC activities are indisputable and, furthermore, provide a greater service to the well-being of citizens of Montana than just improving and expanding the supply of decent, safe, and affordable housing. The viability, general welfare, and long-term stability of Montana's communities are enhanced as well.

MONTANA BOARD OF HOUSING

The Montana Board of Housing program funds are generated through the sale of tax-exempt bonds and from administrative costs. No State funds are used to operate the programs.

SINGLE-FAMILY MORTGAGE LOAN PROGRAM

The Single-Family Mortgage program provides low-interest loans to assist first-time homeowners. The purchase price of an existing home may not exceed $144,336 or the new construction cost of $186,600[3]. The home may not exceed $100,000 or the FHA maximum insurance limit for the area. Data are presented in Table 2.

TABLE 2
TOTAL ECONOMIC BENEFITS OF MBOH SINGLE-FAMILY LOAN PROGRAM EXPENDITURES

Year	Program Expenditures Current $	Basic and Non-basic Income $	Basic and Non-basic Employment	Income Taxes Paid $	Property Taxes Paid $
1985	111,366,962	39,821,751	2,502	2,186,259	1,097,951
1986	73,221,337	25,442,235	1,555	1,392,395	1,819,830
1987	13,070,997	4,453,366	270	259,329	2,129,458
1988	38,940,023	13,610,674	806	406,312	2,475,758
1989	45,475,185	15,751,801	895	422,439	3,200,112
1990	33,413,870	11,560,030	633	320,779	4,196,040
1991	62,847,305	21,946,825	1,147	588,668	5,187,243
1992	45,841,160	16,293,404	815	441,792	5,905,163
1993	23,992,687	8,504,474	410	239,470	6,562,037
1994	17,811,235	6,518,298	312	172,311	7,086,765
1995	73,354,771	25,305,231	1,206	634,347	8,372,947
1996	45,878,783	15,878,386	743	415,029	9,373,203
1997	94,199,769	33,080,020	1,508	835,823	10,878,891
1998	84,273,256	29,880,015	1,313	776,207	12,313,466
1999	87,879,991	31,725,763	1,368	830,609	14,046,834
2000	120,167,312	43,493,277	1,837	1,132,974	16,672,760
2001	111,208,634	39,966,998	1,657	1,047,442	18,580,848
2002	120,313,002	43,866,224	1,769	1,169,796	20,645,146
TOTAL	**1,203,256,279**	**427,098,774**	**20,747**	**13,271,979**	**150,544,451**

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[3] There are exceptions to these general guidelines in various cities in Montana. The exceptions can be viewed at http://www.commerce.state.mt.us/housing/singlefamily/includes/purchase.asp

This information shows the MBOH Single-Family Loan Program activities over the 1985 through 2002 period. This is the single largest MDOC player, having generated over $1.2 billion in aggregate housing investment over the last 18 years. The program distributed $231.5 million in the 2001-2002 planning period, or about 73 percent of all the MDOC housing program investments. This program accounts for over 60 percent of the MDOC program impacts on employment and more than 46 percent of the income impacts. In 2001, impacts of this program were estimated to add 1,657 jobs, with another 1,769 for the 2002 plan year. In the last two years, personal income comprised over $83.8 million and income tax revenues were over $2.2 million, with property tax revenues of over $39.2 million anticipated.

GENERAL OBLIGATION MULTI-FAMILY HOUSING RENTAL PROGRAM

This program provides mortgage financing to owners of qualifying housing when the owner agrees to restrict the rents to a specific amount, renting only to tenants below a maximum income level (generally 60% of median income).

The MBOH loans for multi-family projects are presented in Table 3. Most projects are owned by nonprofit agencies; therefore, fees are paid in lieu of property taxes. This began as a modest program and there were no program expenditures in plan years 2001 and 2002. Expenditures in 2000 include projects that began in 1999, but did not close until 2000. Expenditure impacts of the Multi-Family Housing Rental Program in those years translated into 18 jobs, providing over $394,000 in income, about $9,700 in additional income tax revenue, and nearly $37,000 in additional property tax revenue by 2000, and each year thereafter. The total impacts of this program amount to the creation of 57 new jobs, increasing income by nearly $1.2 million, income tax revenue by over $29,000 and property tax revenue by over $186,000.

TABLE 3
TOTAL ECONOMIC BENEFITS OF MBOH MULTI-FAMILY HOUSING RENTAL PROGRAM EXPENDITURES

Year	Program Expenditures Current $	Basic and Non-basic Income	Basic and Non-basic Employment	Income Taxes Paid $	Property Taxes Paid $
1995	543,896	146,036	8	3,773	4,222
1996	227,896	61,402	3	1,519	6,181
1997	1,486,000	400,830	20	9,865	18,076
1998	624,037	168,383	8	4,287	23,233
1999	0	0	0	0	23,768
2000	1,425,500	394,199	18	9,732	36,952
2001	0	0	0	0	36,952
2002	0	0	0	0	36,952
TOTAL	**4,307,329**	**1,170,849**	**57**	**29,176**	**186,336**

LOW INCOME HOUSING TAX CREDIT PROGRAM

The Low Income Housing Tax Credit (LIHTC) program provides for the retention, rehabilitation, and construction of low-income rental housing. Through the program, developers and owners of qualified housing receive an annual federal tax credit for 10 years, based on the number of housing units provided to low income individuals and families. The MBOH receives authority to allocate approximately $2 million of credits each year.

Table 4 presents the impacts associated with the Low Income Housing Tax Credit Program. "Program Expenditures" represents the total dollar amount granted for each credit. These credits are designed to last 10 years; therefore, the $1.13 million granted in plan year 2000 is *also credited for a total of ten years*. Because there is a strong resale market for these credits, rather than retaining the credit, the contractor typically sells the credit in the commercial market for 73 percent of its 10-year accumulated value, an increase from 55 percent in 1995.

The 2002 market value of the LIHTC is estimated to exceed $17.7 million. This *market value* is used as the initial economic stimulus, spent in the year the LIHTC was granted. In 2002, this program created 236 jobs and generated about $5.5 million in taxable income, nearly $141,300 in additional income tax revenue and over $2.4 million in additional property tax receipts. Total market value of program expenditures from 1987 through plan year 2002 top $90.3 million, accounting for over $13.4 million of property tax revenue and an increase in Montana personal income of over $27.3 million through the creation of over 1,348 jobs, contributing $721,119 to state income tax revenue.

TABLE 4
TOTAL ECONOMIC BENEFITS OF LOW INCOME HOUSING TAX CREDIT PROGRAM EXPENDITURES

Year	Program Expenditures Current $	Market Value of LIHTC	Basic and Non-basic Income $	Basic and Non-basic Employment	Income Taxes Paid $	Property Taxes Paid $
1987	623,348	3,428,414	1,161,670	73	66,579	67,156
1988	206,450	1,135,477	398,819	24	11,722	86,829
1989	345,541	1,900,477	808,913	46	21,705	133,341
1990	206,441	1,135,426	295,490	18	7,827	183,779
1991	156,114	858,628	228,352	13	5,622	210,856
1992	1,373,337	7,553,354	2,031,108	112	50,822	405,286
1993	390,088	2,145,484	575,901	31	15,744	483,375
1994	1,267,349	6,970,420	2,380,441	120	60,791	694,816
1995	825,405	4,539,728	1,218,919	63	28,812	837,406
1996	1,694,469	10,166,815	2,832,524	143	70,449	1,135,351
1997	794,218	5,162,417	1,411,055	70	33,575	1,262,201
1998	1,624,095	11,043,847	3,017,451	145	71,280	1,532,857
1999	1,559,859	10,919,014	4,085,666	181	105,531	1,825,485
2000	1,138,372	8,310,116	2,480,847	113	61,924	2,094,116
2001	2,067,516	15,092,867	4,435,664	198	108,733	2,448,855
2002	2,438,038	17,797,677	5,481,394	236	141,373	2,867,167
TOTAL	14,272,603	90,362,481	27,362,821	1,348	721,119	13,401,708

HUD RENTAL ASSISTANCE PROGRAMS

In the Section 8 Project Based, Moderate Rehabilitation, Housing Choice Voucher programs and the HOME Tenant Based Rental Assistance program, income eligible applicants are chosen from a waiting list in order of application date. When chosen, applicants lease a rental unit on the open market (other than the Moderate Rehabilitation and Project Based Section 8 programs, which are project based). The rental unit must meet HUD Housing Quality Standards. The assisted tenant generally pays 30% of their income for rent. The programs subsidize the remainder of the rental cost up to a set maximum, known as the payment standard or HUD-set rents. In 2002, the Housing Division Section 8 Bureau took over administration of the federally administered project based Section 8 program in Montana. This caused Section I program funding attributable to the MDOC to swell more than 100 percent. Furthermore, because the nature of this program involves a subsidy, it is represented here as simply an income transfer and does not contribute directly to property tax revenue, although the 106 projects all currently pay property taxes.

Table 5 presents the impacts associated with these tenant based and project based rental housing assistance payments. These data represent primarily the Section 8 housing program administered by the MDOC, but there are also small amounts of tenant based rental assistance from the HOME program. Note that these subsidies, or income transfers, while basic, do not generate basic employment. However, the income effectively transferred to the renter, when re-spent, generates non-basic impacts. As a result of program expenditures in plan years 2001 and 2002, 1,431 jobs were created. These jobs, plus the income transfers, resulted in over $73.1 million in total income effects. About $908,600 in income tax revenue was generated for the State. Since 1985, program expenditures of over $204 million have created 8,633 jobs, increasing total personal income over $375 million, and contributing over $4.8 million in income tax revenue.

TABLE 5
TOTAL ECONOMIC BENEFITS OF MDOC SECTION 8 AND TENANT BASED RENTAL ASSISTANCE PROGRAM EXPENDITURES

Year	Program Expenditures Current $	Basic and Non-basic Income	Basic and Non-basic Employment	Income Taxes Paid
1985	5,489,945	9,981,841	299	250,109
1986	6,733,192	12,266,038	353	292,672
1987	7,818,193	14,217,094	407	364,670
1988	8,808,263	15,916,227	452	199,130
1989	9,039,000	16,076,961	430	185,645
1990	9,780,277	17,322,037	445	195,623
1991	9,990,444	17,795,422	436	196,537
1992	10,712,556	19,365,345	458	218,980
1993	11,427,845	20,876,142	472	266,082
1994	13,787,964	25,603,722	600	293,415
1995	12,298,183	22,472,412	511	244,340
1996	9,472,130	17,368,175	391	199,564
1997	13,429,988	24,653,587	541	270,277
1998	12,211,946	22,425,192	468	249,761
1999	11,177,028	21,014,549	437	252,359
2000	13,126,229	24,703,118	501	302,758
2001	12,515,342	23,553,449	468	282,726
2002	26,365,946	49,619,815	963	625,922
TOTAL	**204,184,470**	**375,231,125**	**8,633**	**4,890,570**

HOME INVESTMENT PARTNERSHIPS PROGRAM

The HOME Investment Partnerships Program expands the supply of decent, safe, and affordable housing for low- and very low-income families through income transfers for the purpose of homebuyer assistance, acquisition, new construction, rehabilitation, and tenant based rental assistance. The program also helps facilitate state and local capacity to design and carry out affordable housing projects; it provides financial and technical assistance to participating jurisdictions, and strengthens partnerships among all levels of government and the private sector in the development of affordable housing.

Table 6 presents the economic benefits associated with the HOME single-family projects. Its largest impacts and expenditure levels were seen in 1995, when 46 jobs were created. Property taxes reported in this table include single-family structures as well as the multi-family projects reported in Table 7. Property taxes are presented in this way since property values were available only by ownership status: private, public, or nonprofit. Single-family and multi-family housing projects combined contributed $332,955 to property tax receipts in 2002 alone. In the seven-year period since 1994, this program has expended over $13.2 million, creating 236 jobs, contributing $5.2 million to personal income, over $138,000 to income tax revenues, and some $1.5 million to property tax receipts.

TABLE 6
TOTAL ECONOMIC BENEFITS OF HOME PROGRAM SINGLE-FAMILY PROGRAM EXPENDITURES

Year	Program Expenditures Current $	Basic and Non-basic Income	Basic and Non-basic Employment	Income Taxes Paid	Property Taxes Paid
1994	681,359	279,929	14	7,323	10,862
1995	2,542,205	950,469	46	23,577	68,066
1996	1,890,118	644,911	31	16,505	116,379
1997	579,312	228,741	11	7,521	129,462
1998	1,953,174	710,159	32	18,195	174,814
1999	910,741	390,875	17	10,222	210,316
2000	1,525,807	579,096	25	14,879	255,582
2001	1,168,849	543,649	22	14,391	289,182
2002	2,037,658	951,111	38	25,460	332,955
TOTAL	**13,289,222**	**5,278,940**	**236**	**138,072**	**1,587,618**

Table 7 presents the HOME multi-family program expenditures. HOME has awarded projects for multi-family facilities, the results of which are becoming more evident. These grants resulted in 25 jobs and approximately $574,000 in income in 2001, and 18 jobs and almost $440,000 in income in plan year 2002. These properties also paid property taxes, but are included with those reported in Table 6. Since 1994, this program has expended almost $12.5 million, creating 202 jobs, contributing about $4.4 million to personal income, and about $113,500 to income tax receipts.

TABLE 7
TOTAL ECONOMIC BENEFITS OF HOME PROGRAM MULTI-FAMILY PROGRAM EXPENDITURES[4]

Year	Program Expenditures Current $	Basic and Non-basic Income	Basic and Non-basic Employment	Income Taxes Paid
1994	65,711	30,471	1	780
1995	2,149,063	742,048	36	19,115
1996	1,815,596	631,108	30	16,189
1997	745,125	201,026	10	4,997
1998	1,667,207	503,335	24	12,590
1999	2,070,119	858,940	37	22,397
2000	1,340,755	442,550	20	11,192
2001	1,615,519	574,294	25	14,607
2002	1,062,920	439,848	18	11,667
TOTAL	**12,532,015**	**4,423,619**	**202**	**113,533**

CDBG HOUSING PROGRAM

The MDOC CDBG program for housing is a competitive grant program to help communities of less than 50,000 in population with their greatest community development needs through physical capital projects. Common activities include rehabilitation of individual homes and construction of new housing on behalf of a nonprofit agency. Table 8 presents the CDBG housing program impacts.

TABLE 8
TOTAL ECONOMIC BENEFITS OF CDBG HOUSING PROGRAM EXPENDITURES

Year	Program Expenditures Current $	Basic and Non-basic Income $	Basic and Non-basic Employment	Income Taxes Paid $	Property Taxes Paid $
1988	1,024,601	462,322	27	13,863	8,041
1989	750,000	333,108	19	8,968	15,100
1990	1,762,766	779,619	42	21,700	35,286
1991	1,013,678	450,883	23	12,151	46,798
1992	1,033,040	466,326	23	12,691	58,304
1993	1,032,884	454,670	22	12,977	72,985
1994	673,243	291,261	14	7,664	83,905
1995	673,243	286,608	14	7,214	93,914
1996	1,142,918	378,327	18	9,645	113,701
1997	1,597,643	611,941	28	15,293	135,410
1998	1,618,765	570,951	26	14,320	159,589
1999	1,357,173	554,275	24	14,433	181,826
2000	1,280,626	490,792	21	12,623	208,070
2001	891,139	407,407	17	10,761	219,790
2002	313,880	147,508	6	3,950	223,829
TOTAL	16,165,601	6,685,998	325	178,254	1,656,549

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[4] Property taxes paid are presented in Table 6.

On average, this program has produced about 18 jobs per year and nearly $371,000 in total income each year. Grants have totaled nearly $16.1 million since 1988, creating 325 jobs, contributing over $6.6 million in personal income, over $178,000 in income tax receipts, and over $1.6 million in property tax receipts.

The next piece of analysis relates to MDOC housing impacts pertaining to administrative fees. Federal program activities also allow a percentage of funding for the operation and administration of the programs. The percent of funding varies up to a maximum of 10%. Section 8, CDBG, HOME Grantee and HOME State administration costs and their impacts are included in Table 9. By 2002, these fees generated an additional 268 jobs and over $6.5 million in income. There were relatively more basic jobs created from administrative activities than created by construction activities, since administrative jobs pay slightly less than construction jobs.

TABLE 9
TOTAL ECONOMIC BENEFITS OF SECTION 8, CDBG HOUSING, AND HOME PROGRAM ADMINISTRATION FEES

Year	Program Expenditures Current $	Basic and Non-basic Income	Basic and Non-basic Employment	Income Taxes Paid $
1985	475,184	863,982	59	46,542
1986	793,521	1,445,579	91	75,821
1987	758,993	1,380,201	85	79,889
1988	1,004,468	1,815,038	114	53,120
1989	948,532	1,687,079	97	46,183
1990	1,210,321	2,143,623	119	58,202
1991	1,107,844	1,973,341	102	52,733
1992	1,391,273	2,515,037	125	68,068
1993	2,045,217	3,736,158	172	109,590
1994	2,010,809	3,733,995	182	97,017
1995	2,009,717	3,672,346	176	91,944
1996	1,782,594	3,268,579	157	83,198
1997	2,417,385	4,437,623	210	109,565
1998	2,545,488	4,674,362	209	116,316
1999	2,326,476	4,374,136	191	114,199
2000	2,443,636	4,598,840	198	119,598
2001	2,885,666	5,430,726	229	138,325
2002	3,461,065	6,513,608	268	174,348
TOTAL	**31,618,188**	**58,264,251**	**2,783**	**1,634,659**

SUMMARY

MDOC housing projects focus on housing and the provision of housing, enhancing the availability of decent, safe, affordable housing, as well as improving the communities in Montana. From the investments in property, State and local governments receive property taxes; from the investment in jobs, the State receives more income tax. Together, these investments made by the MDOC have made a significant economic contribution to the State of Montana. In the last two years:

- Program investments in housing have included grants, loans, tax credits, and rental assistance. These investments over the last 18 years amounted to nearly $1.6 billion, generating over 34,400 jobs, causing some $908 in increased personal income, over $21 million in income taxes, and over $171.4 million in property taxes.

APPENDIX A
OVERVIEW OF METHODOLOGY

The economic health of an area is dependent upon the vitality of its basic industries. The industries are those economic sectors that cause income to flow into the area due to the export of a good or service. Basic activity also includes the expenditure of federal government or retirement funds in the State. This analysis examines this former type of basic activity in detail: the expenditure of federal program funds on specific program activities in Montana. This analysis also assumes that Montana Board of Housing funds act in a fashion similar to infusions of funds by out-of-State entities[5].

When a HOME or CDBG housing project expends federal funds to build a house or rehab an existing dwelling, the construction workers are considered basic sector employees. Their income, spent in Montana, generates non-basic employment and income effects. Both the basic worker and non-basic worker pay income taxes. The owner of the housing unit, when held privately, pays real estate taxes. In cases not involving the Low Income Housing Tax Credit (LIHTC), a housing facility constructed for a public entity or a nonprofit agency pays fees in lieu of taxes.

The economic impact analysis uses established methods and techniques to quantify effects associated with measurable economic stimuli. There are two approaches used in assessing economic impacts: the economic base and the input/output (I/O) model. Both models are designed to predict changes in the economy resulting from a particular stimulus[6]. However, the economic base model is better able to adapt to the dynamic changes associated with an economy that is undergoing structural change, as is Montana's economy. On the other hand, the I/O formulation has a greater capacity for detail in the model structure; this type of model has the ability to trace inter-industry transactions or dollar flows, such as those dollar transactions related to single-family rehabilitation.

The economic benefits model presented herein borrows the inter-industry transactions approach from the I/O formulation by using estimates of the construction payroll per employee and expenditures per employee, by specific type of construction project. From such relationships, basic income and basic employment data are computed. Then, estimates of non-basic income and employment can be derived. For housing, this represents the full employment and income effect. The sum of all the basic and non-basic impacts equals the total economic benefit.

Montana Adjusted Gross Income (MAGI) tax payments, by income category, are then applied to each type of job and the respective earnings level to develop income tax estimates. Further, effective property tax rates for residential properties are applied to the property investment, by the type of project, to develop estimates of the property taxes paid. All facilities that have been assisted in previous years pay property taxes in ensuing years. The following discussion presents each of these issues in greater detail.

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[5] This analysis does not currently consider the future economic effects of bond replacement to in-state or out-of-state bondholders, only the initial impacts associated with expenditures of bond proceeds.

[6] While both are classed as conditional predictive models, there are significant differences between the two approaches.

PROGRAM EXPENDITURES

A wide variety of housing program activities (or projects) were evaluated for this analysis. This is because program expenditures per employee and employee salaries differ significantly among different kinds of new construction or rehab activities for single-family and multi-family buildings. The activities under which MDOC program funds were expended are presented below:

New Construction of Single-Family Dwellings
Acquisition and Rehabilitation of Single-Family Dwellings
New Construction of Multi-Family Dwellings
Acquisition and Rehabilitation of Multi-Family Dwellings
Low Income Housing Tax Credit
Tenant Based Rental Assistance (Housing Choice Vouchers, HOME)
Project Based Rental Assistance (fixed location buildings)
All Program Administrative Costs for Section 8, HOME, and CDBG

For all the above activities, it is assumed funds were spent or drawn down during the State's Consolidated Plan Year, April 1 through March 31. All of the following tables present program expenditure levels over the 1985 through 2002 period.

Table A.1 presents program expenditures for MDOC's Section 8 Rental Assistance program, as well as the Montana Board of Housing (MBOH) Single-Family and Multi-Family programs. The Section 8 and MBOH program expenditures span a July-June fiscal period through June 1995. In 1996 the period ends in March of 1996, reflecting a nine-month period. Therefore, data are slightly lower in that period.

Section 8 expenditures are true income transfers in that the payment is a rental subsidy, thereby increasing the net disposable income of the renter. Hence, the expenditures are considered 100 percent basic income, flowing from the Federal Government and into Montana. This program is a significant player in the housing market, expending approximately $12.4 million in 2001 and another $26 million in plan year 2002. The reason that there has been over a 100 percent increase in Section 8 activities is due to the fact that in Federal Fiscal Year 2001 (or plan year 2002) MDOC's Section 8 Housing Bureau was awarded administration of Montana's project based Section 8 contracts, previously administered directly by HUD in Denver. With administrative income rising over $1 million, this new function for the MDOC Housing Division has added significant fuel to Montana's benefits derived from MDOC housing activities.

The MBOH Single-Family programs have expended nearly $1.2 billion over the last sixteen years, with $1 billion for the acquisition and rehab of existing homes and another $157 million for new construction. MBOH Multi-Family Rental project expenditures have contributed over $4.3 million to Montana's economy.

TABLE A.1

SECTION 8 AND MBOH EXPENDITURES 1985-2002

	MBOH Single-Family				MBOH Multi-Family
Year	Section 8	Section 8 Admin Fees	Single-family Acquisition & Rehab	Single-Family New Construction	Government and Nonprofit
1985	5,489,945	475,184	104,816,502	6,550,460	
1986	6,733,192	793,521	60,701,824	12,519,513	
1987	7,818,193	758,993	10,000,481	3,070,516	
1988	8,808,263	782,920	34,270,340	4,669,683	
1989	9,039,000	814,832	41,152,225	4,322,960	
1990	9,780,277	946,691	30,610,207	2,803,663	
1991	9,990,444	925,349	58,419,374	4,427,931	
1992	10,712,556	1,056,472	43,106,635	2,734,525	
1993	11,427,845	1,285,090	21,388,790	2,603,897	
1994	13,787,964	1,190,764	16,903,573	907,662	
1995	12,289,329	1,144,877	58,106,004	15,248,767	543,896
1996	9,400,045	929,203	36,309,457	9,569,326	227,896
1997	13,371,833	1,335,017	79,094,941	15,104,828	1,486,000
1998	12,091,362	1,443,040	73,603,722	10,669,534	624,037
1999	11,151,131	1,517,044	74,975,435	12,904,556	
2000	13,059,594	1,641,077	103,221,745	16,945,567	1,425,500
2001	12,420,526	2,048,867	92,672,202	18,536,432	
2002	26,076,629	3,046,973	106,567,527	13,745,475	
TOTAL	**203,448,127**	**22,135,914**	**1,045,920,984**	**157,335,295**	**4,307,329**

Table A.2 presents the MBOH Low Income Housing Tax Credit (LIHTC) program, reported April 1 through March 31 over the 1985-2002 period. The LIHTC data represents the market value of the tax credit.

TABLE A.2

LIHTC MARKET VALUES 1987-2002

	Tax Credits Awarded			Market Value of Tax Credit	
Year	Residential Rehab	Residential New Construction	10 yr Market Value	Residential Rehab	Residential New Construction
1987	238,924	384,424	0.55	1,314,082	2,114,332
1988	95,296	111,154	0.55	524,129	611,348
1989	310,558	34,983	0.55	1,708,068	192,409
1990	0	206,441	0.55	0	1,135,426
1991	3,595	152,519	0.55	19,773	838,855
1992	24,222	1,349,115	0.55	133,221	7,420,133
1993	0	390,088	0.55	0	2,145,484
1994	455,858	811,491	0.55	2,507,219	4,463,201
1995	0	825,405	0.55	0	4,539,728
1996	82,515	1,611,954	0.60	495,091	9,671,724
1997	15,134	779,084	0.65	98,371	5,064,046
1998	29,226	1,594,869	0.68	198,737	10,845,110
1999	790,393	769,466	0.70	5,532,752	5,386,262
2000	129,481	1,008,891	0.73	945,211	7,364,905
2001	185,544	1,881,972	0.73	1,354,471	13,738,396
2002	396,430	2,041,608	0.73	2,893,939	14,903,738
TOTAL	**2,757,176**	**13,953,465**		**17,725,063**	**90,435,095**

Since 1996, the market value of 10-year credits has increased from 55 percent to 73 percent, indicating the increasing value of this type of residential development. The credits for the acquisition and rehabilitation of residential properties have comprised over $2.7 million.

However, these credits are sold on the open market, providing additional funds for the property. These have been marketed for over $17.7 million over the last sixteen years. New construction is nearly five times these values, having some $13.9 million in credits awarded and then sold on the open market for over $90 million.

Table A.3 presents the CDBG program expenditures associated with housing, whether residential rehabilitation or new construction. For the purposes of the analysis presented herein, 100 percent of the new construction expenditures are considered equal to the market value of the homes and subject to property tax. For the rehabilitation expenditures, 75 percent of the expenditure is assumed to translate to improved market value of the home. That 75 percent is also subject to property tax. The CDBG program contributed about $1.1 million in 1999 and 2000 toward housing rehabilitation, but just $58,000 toward new construction in Montana[7]. Administrative costs, totaling about $263,000 in the last two years, are treated as a direct income transfer to Montana citizens.

TABLE A.3
CDBG HOUSING EXPENDITURES COMPUTED 1988-2002

Year	Res Rehab Housing	New Res Housing	Admin Housing
1988	1,024,601	0	221,548
1989	750,000	0	133,700
1990	1,762,766	0	263,630
1991	1,013,678	0	182,495
1992	1,033,040	0	291,561
1993	945,000	87,884	270,366
1994	563,597	109,647	147,785
1995	563,597	109,647	147,785
1996	373,542	769,376	250,884
1997	959,369	638,274	350,702
1998	710,883	907,882	353,363
1999	928,074	429,099	297,916
2000	706,536	574,090	281,113
2001	832,282	58,857	195,616
2002	313,880	0	68,901
TOTAL	**12,480,845**	**3,684,756**	**3,457,364**

Table A.4 presents expenditure data for the HOME program[8]. Note that the HOME program data begins in the plan year ending March 1994. The Montana HOME program was created in 1992; however, no fund drawdowns actually occurred in the early years. Data has been separated into multi-family and single-family structures, as well as new construction, rehabilitation, acquisition, tenant based rental assistance (TBRA), and administrative costs. The HOME program identified whether funds were received by public, nonprofit, or private entities, thereby enhancing the ability to accurately represent the property tax liability associated with the residential property. In plan year 2002, the HOME program contributed more than $3.7 million toward the creation of affordable housing in Montana.

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[7] CDBG housing data for 1988-93 represents federal fiscal year. Data for 1994-1998 was estimated from incremental drawdowns, by project, from the Performance and Evaluation Report (PER). For the revised 1995 plan year, lasting 18 months, no calendar 1994 data was available. It was assumed that 50% of the 1995 plan year drawdowns happened in the first nine months (and termed 1994 expenditures) with the remainder 1995 expenditures. Data for 1996 through 2002 is by the revised plan year. Further, for this time period, 18 percent of housing drawdowns are assumed as administrative costs.

[8] All HOME expenditure data has been revised to reflect an April 1 through March 31 plan year. All data for each year represents the incremental drawdowns for each project. Administration costs consist of both grantee and state administration costs.

TABLE A.4
HOME PROGRAM EXPENDITURES COMPUTED 1992-2002

Year	Single-family Rehab	Single-family New Construction	Multi-family Rehab	Multi-family New Construction	Multi-family Acquisition	Single-family Acquisition	Tenant Based Rental Assistance	Admin Fees
1992						0	0	43,240
1993						0	0	489,761
1994	492,612	188,747	0	0	65,711	0	0	672,260
1995	1,426,460	1,115,745	877,934	1,270,333	796	0	8,854	717,055
1996	719,886	1,170,232	753,185	1,062,411	0	0	72,085	602,507
1997	183,285	195,140	200	744,925	0	200,887	58,155	731,666
1998	133,714	982,787	283,350	1,383,857	0	836,673	120,584	749,085
1999	255,720	190,010	1,485,445	584,674	0	465,010	25,897	511,516
2000	451,393	713,267	371,145	969,611	0	361,147	66,635	521,446
2001	577,577	29,220	659,452	956,067	0	562,052	94,816	641,183
2002	440,843	33,537	362,199	308,511	392,210	1,563,277	289,317	345,192
TOTAL	**4,681,490**	**4,618,686**	**4,792,909**	**7,280,389**	**458,717**	**3,989,046**	**736,343**	**5,491,909**

SUMMARY

The economic benefits analysis measures the initial impact of the expenditure of funds in the economy by calculating employment and income. It then computes secondary impacts caused by that initial investment. In other words, it measures additional economic activity resulting from the grant or loan funds in the form of new jobs created in Montana, increased income, and the resulting re-spending of basic income generated throughout the State's economy. The analysis measures the resulting change in four economic variables: jobs, income, income tax revenues, and state and local property tax receipts.

The MDOC housing programs provided $145.3 million of project funding in 2001 and another $171.4 million in 2002. These investments impart significant economic benefits and generate jobs all over Montana. This employment, and the income it creates, in turn increases the State's income tax revenues. Permanent jobs continue to contribute tax revenues year after year. Property that has been developed also results in additional state and local property taxes that contribute annually to property tax receipts.

Over the last eighteen years, the MDOC programs have created many jobs, as well as substantial additions to personal income and to State revenues in the form of income tax revenues and property tax receipts. Program investments, including grants, loans, tax credits, and tenant based rental assistance, in the aggregate, amounted to nearly $1.6 billion, and generated more than 34,567 jobs, more than $21 million of income tax revenues, and in excess of $170 million of property tax receipts.

APPENDIX B
MODEL INPUTS AND PARAMETERS

TAX RATES

The economic benefits analysis incorporates current property and income tax rates in computing taxes paid to state and local government. Tables B.1 through B.6 present several concepts used in defining the Statewide Average Effective Tax Rate for residential property. For comparison and background information, four residential property classes are presented: residential, residential low-income, mobile home, and mobile home low-income. Low-income households can get discounts on their property tax rates through two methods: a ceiling on assessed value and a sliding scale based on adjusted gross income. Households in these categories can feasibly pay as little as zero property tax, if they fulfill all requirements. These property tax relief measures are not tracked separately by the Department of Revenue; however, the department reports that approximately $2 million per year are granted by this property tax mechanism. For the purposes of the economic benefits analysis, it is assumed that all privately held residential property is taxed at the average residential class rate, with one exception. Between 1985 and 1986, assessed valuations approximately doubled in Montana, thereby altering the effective tax rate. The restructuring of assessed values was intended to realign them more closely with the market values. Therefore, the 1985 property tax rates use one half of the market value.

An interesting note regarding property tax rates is that while certain types of government entities, whether state, county, or local, have had significant changes in average mill levy rates during the 1986 through 1999 period, the statewide average effective tax rate continues to climb for most tax categories. Because 2001 and 2002 data are not yet available, the effective tax rates from 2000 held constant through 2002.

Table B.7 presents the amount of tax paid by individuals within a broad array of Montana Adjusted Gross Income (MAGI) categories. Across all income tax categories, taxes paid per tax filing are declining. For purposes of this analysis, workers in the housing programs pay income taxes and at amounts specified in Table B.7, depending on the worker's earned income. In the economic benefits model, real average wage rates are converted to nominal dollar amounts and the proper MAGI tax bracket applied for each year. This computation assumes that workers have only this earned income, with no further adjustments to income. In regard to itemized deductions, or other credits against taxes, it is further assumed that these wage earners are representative of the average Montana wage earners in these categories. In other words, they are like the average taxpayer. Hence the taxes owed within these categories best represent taxes paid by wage earners.[9]

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[9] As per Larry Finch, Program Manager, Office of Research and Information, Montana Department of Revenue, telephone conversation, September 18, 1995.

TABLE B.1
MONTANA RESIDENTIAL PROPERTY VALUES
ASSESSED PROPERTY 1985-2000, MILLIONS OF DOLLARS

CLASS	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Residential	4,515.9	10,326.8	10,192.2	9,977.3	10,093.0	10,618.1	11,097.2	11,397.8	13,025.1	15,261.8	15,839.0	16,343.6	17,093.4	17,746.9	16,958.9	17,760.9
Residential Low Income	90.1	217.5	229.8	224.7	223.7	219.2	226.1	234.7	268.0	298.2	295.4	345.2	360.9	374.6	338.9	335.4
Mobile Homes	276.3	379.0	401.2	394.2	398.9	414.4	387.6	432.5	334.5	377.2	414.1	436.9	466.7	500.8	479.5	505.9
Mobile Homes Low Income	5.4	12.0	11.9	12.3	13.2	13.6	13.8	15.2	11.8	13.0	13.9	16.1	19.1	20.8	19.5	19.0

TABLE B.2
MONTANA PROPERTY TAXABLE VALUE RATES
1985-2000

CLASS	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Residential	0.0855	0.0385	0.0386	0.0386	0.0386	0.0386	0.0386	0.0386	0.0386	0.0386	0.0386	0.0386	0.0384	0.0382	0.0371	0.0363
Residential Low Income	0.0535	0.0229	0.0232	0.0226	0.0224	0.0225	0.0227	0.0225	0.0222	0.0223	0.0225	0.0203	0.0201	0.0198	0.0190	0.0182
Mobile Homes	0.0855	0.0398	0.0386	0.0386	0.0386	0.0386	0.0386	0.0386	0.0385	0.0385	0.0385	0.0386	0.0384	0.0381	0.0371	0.0363
Mobile Homes Low Income	0.0524	0.0235	0.0229	0.0223	0.0222	0.0225	0.0223	0.0223	0.0220	0.0220	0.0226	0.0206	0.0201	0.0202	0.0198	0.0193

TABLE B.3
MONTANA RESIDENTIAL PROPERTY TAXABLE VALUES
1985-2000, MILLIONS OF DOLLARS

CLASS	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Residential	386.1	397.7	393.4	385.1	389.6	409.8	428.3	439.9	502.8	589.1	611.4	630.9	656.0	677.2	629.2	644.2
Residential Low Income	4.8	5.0	5.3	5.1	5.0	4.9	5.1	5.3	5.9	6.6	6.6	7.0	7.3	7.4	6.4	6.1
Mobile Homes	23.6	15.1	15.5	15.2	15.4	16.0	15.0	16.7	12.9	14.5	16.0	16.9	17.9	19.1	17.8	18.3
Mobile Homes Low Income	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4

TABLE B.4
MONTANA PROPERTY TAXES LEVIED
TAXABLE VALUATION AND TAX RECEIPTS 1985-2000

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Taxable Valuation	2,370,133	2,308,229	2,000,745	1,942,950	1,907,404	1,573,361	1,595,221	1,632,623	1,731,948	1,787,065	1,838,337	1,867,619	1,915,280	1,942,020	1,900,648	1,679,740
Jurisdiction																
State	16,272	15,656	13,771	11,641	11,705	68,418	168,388	172,568	181,047	186,648	193,423	195,993	200,432	201,789	200,319	176,159
County	122,882	125,019	118,760	109,201	123,114	109,082	103,890	109,451	115,051	122,659	129,082	136,833	140,217	141,571	151,044	150,071
Local Schools	331,430	343,102	317,261	298,912	316,436	254,767	184,033	193,780	237,081	263,447	280,418	298,667	310,811	321,762	273,800	248,824
Miscellaneous	31,569	33,862	35,661	34,095	38,301	36,616	36,982	37,879	45,744	50,879	50,832	52,934	54,852	56,276	84,223	83,100
City& Towns	69,933	73,300	72,948	72,858	71,050	73,255	73,331	75,157	78,057	80,465	85,606	90,517	92,745	99,170	135,685	136,445
TOTAL	572,087	590,939	558,400	526,707	560,606	542,139	566,625	588,835	656,980	704,098	739,361	774,944	799,056	820,569	845,071	794,598

TABLE B.5
MONTANA PROPERTY TAX MILL LEVIES
AVERAGE MILL LEVY RATES ASSESSED ON TAXABLE VALUE: 1985-2000

Jurisdiction	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
State	6.87	6.78	6.88	5.99	6.14	43.49	105.56	105.70	104.53	104.44	105.22	104.94	104.65	103.91	105.39	104.87
County	51.85	54.16	59.36	56.20	64.55	69.33	65.13	67.04	66.43	68.64	70.22	73.27	73.21	72.90	79.47	89.34
Local Schools	139.84	148.64	158.57	153.84	165.90	161.93	115.37	118.69	136.89	147.42	152.54	159.92	162.28	165.68	144.06	148.13
Miscellaneous	13.32	14.67	17.82	17.55	20.08	23.27	23.18	23.20	26.41	28.47	27.65	28.34	28.64	28.98	44.31	49.47
City& Towns	29.51	31.76	36.46	37.50	37.25	46.56	45.97	46.03	45.07	45.03	46.57	48.47	48.42	51.07	71.39	81.23
TOTAL	241.37	256.01	279.10	271.09	293.91	344.57	355.20	360.67	379.33	394.00	402.19	414.94	417.20	422.53	444.62	473.05

TABLE B.6
MONTANA PROPERTY TAX RATES
AVERAGE EFFECTIVE TAX RATE ON MARKET VALUE: 1985-2000

CLASS	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Residential	2.064%	0.986%	1.077%	1.046%	1.134%	1.330%	1.371%	1.392%	1.464%	1.521%	1.552%	1.602%	1.601%	1.612%	1.650%	1.716%
Residential Low Income	1.291%	0.585%	0.648%	0.614%	0.658%	0.776%	0.806%	0.811%	0.841%	0.878%	0.903%	0.841%	0.840%	0.835%	0.845%	0.861%
Mobile Homes	2.064%	1.019%	1.077%	1.046%	1.134%	1.329%	1.372%	1.392%	1.461%	1.517%	1.550%	1.601%	1.601%	1.612%	1.649%	1.716%
Mobile Homes Low Income	1.265%	0.602%	0.638%	0.604%	0.651%	0.777%	0.790%	0.804%	0.836%	0.866%	0.911%	0.856%	0.838%	0.852%	0.879%	0.915%

TABLE B.7
MONTANA INCOME TAX ANALYSIS
TAX PER WORKER 1985-2000

MAGI Bracket	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
< 0 or = 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 - 999	10	10	11	1	1	1	2	0	0	0	0	0	0	0	0	0
1,000-1,999	32	32	35	5	4	4	4	1	1	0	0	0	0	0	0	0
2,000-2,999	62	62	67	16	14	14	14	9	9	8	8	2	2	1	1	1
3,000-3,999	101	100	108	30	26	26	25	20	20	19	18	11	11	10	10	8
4,000-4,999	141	141	153	48	41	42	40	34	35	32	31	25	24	24	23	22
5,000-5,999	184	183	198	69	60	60	57	51	51	47	47	42	41	40	39	37
6,000-6,999	234	233	252	93	81	82	76	70	71	65	64	59	59	58	57	55
7,000-7,999	284	283	307	122	105	106	99	92	93	86	85	79	79	77	76	73
8,000-8,999	341	339	365	151	132	133	124	116	117	108	106	101	100	97	96	93
9,000-9,999	400	399	431	184	159	161	150	142	143	132	130	110	121	121	119	114
10,000-10,999	462	459	498	222	194	195	180	170	170	159	156	148	147	146	144	138
11,000-11,999	532	527	568	261	228	229	213	201	202	186	183	176	174	172	170	165
12,000-12,999	602	598	645	307	270	267	246	236	236	218	214	208	206	202	198	190
13,000-13,999	676	670	723	350	307	311	287	274	273	255	246	240	235	233	230	221
14,000-14,999	757	751	808	395	348	354	326	314	310	291	283	271	268	264	263	253
15,000-15,999	836	830	896	440	389	395	367	354	352	333	321	311	305	299	298	287
16,000-16,999	916	910	983	491	432	439	407	395	396	369	357	348	344	337	333	321
17,000-17,999	997	990	1,072	538	474	483	451	434	434	409	398	389	380	375	369	358
18,000-18,999	1,079	1,071	1,159	579	518	530	492	478	480	450	439	430	422	417	414	399
19,000-19,999	1,169	1,160	1,250	629	563	576	536	526	522	489	478	467	460	455	454	438
20,000-20,999	1,260	1,250	1,349	686	613	619	579	575	564	534	525	511	500	493	492	480
21,000-21,999	1,349	1,340	1,449	730	650	671	622	609	614	577	560	548	540	533	529	519
22,000-22,999	1,439	1,430	1,547	787	696	711	671	655	658	621	600	591	582	575	577	560
23,000-23,999	1,530	1,520	1,647	838	748	763	717	706	705	663	652	634	630	620	619	604
24,000-24,999	1,619	1,609	1,746	899	793	811	764	745	749	709	692	682	671	668	657	650
25,000-25,999	1,709	1,700	1,846	951	844	860	813	795	800	749	732	724	711	709	699	689
26,000-26,999	1,803	1,791	1,944	1,003	894	914	862	846	846	799	778	754	755	747	746	735
27,000-27,999	1,904	1,889	2,044	1,065	946	966	914	890	896	848	830	815	794	790	792	776
20,000-28,999	2,004	1,989	2,153	1,121	1,002	1,016	957	939	944	890	871	855	843	837	832	815

TABLE B.7 contd.
MONTANA INCOME TAX ANALYSIS
TAX PER WORKER 1985-2000

MAGI Bracket	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
29,000-29,999	2,104	2,089	2,262	1,182	1,051	1,080	1,024	989	991	932	917	899	883	879	877	858
30,000-30,999	2,204	2,189	2,373	1,243	1,105	1,125	1,062	1,046	1,049	983	966	945	931	928	930	904
31,000-31,999	2,305	2,289	2,485	1,304	1,161	1,184	1,120	1,087	1,089	1,033	1,006	990	977	967	967	946
32,000-32,999	2,405	2,389	2,593	1,370	1,219	1,258	1,180	1,133	1,140	1,082	1,052	1,039	1,021	1,017	1,014	982
33,000-33,999	2,502	2,490	2,703	1,434	1,265	1,300	1,234	1,200	1,207	1,123	1,097	1,085	1,069	1,057	1,054	1,036
34,000-34,999	2,606	2,590	2,811	1,496	1,337	1,359	1,288	1,242	1,252	1,177	1,143	1,132	1,123	1,089	1,091	1,082
35,000-35,999	2,704	2,690	2,922	1,545	1,403	1,414	1,348	1,300	1,294	1,231	1,188	1,173	1,155	1,142	1,137	1,122
36,000-36,999	2,802	2,790	3,032	1,643	1,446	1,481	1,396	1,357	1,357	1,282	1,230	1,232	1,206	1,186	1,189	1,160
37,000-37,999	2,904	2,889	3,144	1,671	1,510	1,531	1,466	1,394	1,402	1,338	1,292	1,274	1,232	1,223	1,233	1,219
38,000-38,999	3,005	2,991	3,253	1,766	1,568	1,611	1,522	1,445	1,453	1,383	1,356	1,339	1,303	1,271	1,268	1,261
39,000-39,999	3,103	3,092	3,363	1,826	1,619	1,677	1,572	1,510	1,517	1,426	1,406	1,353	1,363	1,322	1,346	1,317
40,000-49,999	3,589	3,599	3,888	2,155	1,931	1,970	1,868	1,750	1,773	1,683	1,637	1,618	1,588	1,575	1,572	1,546
50,000-59,999	4,693	4,671	5,079	2,884	2,554	2,615	2,495	2,248	2,267	2,172	2,122	2,098	2,079	2,076	2,071	2,049
60,000-69,999	5,816	5,798	6,284	3,642	3,265	3,331	3,161	2,692	2,747	2,662	2,559	2,562	2,551	2,592	2,591	2,557
70,000-79,999	6,932	6,935	7,538	4,311	3,932	3,986	3,833	3,188	3,193	3,092	2,994	2,984	2,982	3,054	3,069	3,056
80,000-89,999	8,007	7,981	8,763	5,209	4,644	4,675	4,543	3,535	3,654	3,497	3,423	3,465	3,517	3,540	3,569	3,498
90,000-99,999	9,166	9,094	9,954	5,887	5,325	5,452	5,265	4,138	4,182	3,996	3,924	3,884	3,832	4,048	4,023	3,992
100,000-109,999	10,186	10,233	11,157	6,858	6,011	6,292	5,957	4,523	4,509	4,584	4,287	4,316	4,417	4,538	4,580	4,529
110,000-119,999	11,307	11,286	12,406	7,528	6,646	6,946	6,585	5,084	5,215	5,142	4,911	4,922	4,922	5,136	5,037	5,051
120,000 +	26,773	25,524	31,880	25,650	26,155	18,991	18,014	11,022	11,084	11,377	10,545	9,818	10,940	12,301	12,167	12,553
Average Tax Paid	423	433	568	671	634	640	650	720	767	760	761	791	857	952	992	1,048

NON-BASIC/BASIC MULTIPLIERS

The level of non-basic economic activity created is related to the level of 'basic' income. A non-basic/basic multiplier is used to compute non-basic income, and historic average wages paid to non-basic employees are then used to approximate non-basic employment.

To determine the multiplier, 73 industry sectors within Montana's economy were analyzed. Each industry was compared to the same 73 industries in the surrounding States of Idaho, North Dakota, South Dakota, and Wyoming. This larger region was then compared with the US economy. In this way, the export portion for each of Montana's industries was identified. The exporting portion of each industry is then considered as part of the 'basic' sector, whether the industry is mining, recreational services, or wholesale trade. For example, the exporting portion from the lumber and wood products industry is quite large, but the exporting portion of the grocery store industry is small. The sum of employment and income from these exporting industries is added together to form total basic employment. Basic income includes wages from these workers, but also includes unearned income sources, such as federal transfer payments. Non-basic income is defined as total personal income less all basic income. Basic income and non-basic income have a relatively stable relationship. Table B.8 presents that relationship as a non-basic/basic multiplier, over the 1985 through 2000 period.

TABLE B.8
NON-BASIC/BASIC MULTIPLIERS

Year	Multiplier
1985	0.818204
1986	0.821727
1987	0.818463
1988	0.806965
1989	0.778622
1990	0.771119
1991	0.781244
1992	0.807724
1993	0.826779
1994	0.856962
1995	0.827295
1996	0.833608
1997	0.835712
1998	0.836332
1999	0.880155
2000	0.881966

The BEA had not yet released the 2001 two-digit SIC data (for employment and income) in time for inclusion in this report. Therefore, the multipliers are held constant for 2001 and 2002. Keeping this value at 0.881966 for both 2001 and 2002 produces a conservative estimate of impact, as the multiplier has actually been inching upward for the last four years[10].

Non-basic income is computed from the non-basic/basic multiplier and basic income (wage earnings from program activities). Non-basic employment can then be estimated from average non-basic wages paid. These values are presented in Table B.9. Note that real wages per non-basic employee have remained in the lower-20s throughout most of the period, with the exception of rising wages in the early 1990s. Because the newest data is not yet available for 2001 or 2002, for the purposes of this analysis the 2000 value is held constant in real 2001 dollars.

TABLE B.9
NON-BASIC INCOME PER EMPLOYEE

Year	2001$
1985	23,002
1986	23,296
1987	22,839
1988	22,155
1989	22,348
1990	22,249
1991	22,664
1992	23,061
1993	23,866
1994	22,897
1995	22,694
1996	22,537
1997	22,711
1998	23,403
1999	23,858
2000	24,140

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[10] The Bureau of Economic Analysis revises its industry employment and income data every year, usually including the last 2 years. Every five years the BEA conducts a benchmark test, and may revise earlier data. In 1997, the employment and income data was revised from 1958 through 1996. Consequently, there are minor differences in the basic and non-basic estimates prepared in pervious years.

IMPACT COEFFICIENTS

This analysis begins by calculating additions to 'basic' income by using a set of factors, or impact coefficients. These are payroll per employee and per employee construction costs. Further, the data is specific to each type of program activity, such as the rehab of single-family homes -- any project that involved some form of construction or rehabilitation. The data tell us the average dollar value of investment necessary to create one job and the average salary paid to each worker for the program activity. Yet the wages paid for differing types of construction activities can vary significantly. These coefficients, presented in Table B.10, are national averages, since specific Montana data are not readily available.

TABLE B.10
IMPACT COEFFICIENTS
1,000s OF REAL 2001 DOLLARS PER EMPLOYEE

CONSTRUCTION ACTIVITY	Payroll Per Employee	Dollar Value of Investment
SINGLE-FAMILY DWELLING	21.4	145.9
MULTI-FAMILY DWELLINGS	28.4	194.2
RESIDENTIAL/HEALTH RELATED	34.6	280.0
RESIDENTIAL REHAB.	25.9	103.5
CARPENTRY	23.4	105.3
PLUMBING	32.3	148.9

Table B.10 data are used in conjunction with the program funds expended for construction or rehabilitation investments. For example, if $145,900 of program funds were spent for single-family housing, one full-time annual job paying a sum of $21,400 was created. The same is true for each of the remaining program activities listed in the above table.

The analysis then continues by calculating the remaining basic jobs, and the total of *all* basic earnings. These wages are then spent within the local economy. This creates non-basic economic activity for both employment and income. Again, the sum of basic and non-basic impacts equals the total economic benefit.

MODEL ASSUMPTIONS

Several assumptions were used in computing impacts associated with the economic benefits analysis. These relate to program operations, administrative costs, property taxes, and income taxes. Each of these, if not previously addressed, is itemized below.

1. HOME program acquisition costs are assumed to have impacts on the same scale as residential rehabilitation. However, it is assumed that 80 percent of the MBOH loans used for financing existing housing structures are then used to build new or remodeled existing homes. The remainder immediately leaks out of the State as the home seller retires or otherwise departs with the sale receipts.

2. It is assumed that the LIHTC is sold on the open market. This analysis takes a conservative approach and assumes that the credit was marketed for 55 percent in the period spanning 1987 to 1995; however, market valuation of these loans has been rising, as reflected in the analysis. The increase is from 0.6 in 1996 to 0.73 in 2002. Further, these funds, all of which are acquired in the first year, are then used to

acquire/rehabilitate existing housing or build new construction housing, depending upon which project type was awarded the LIHTC.

3. It is assumed that CDBG housing project investments for both construction and administrative costs are incurred as they are drawn.

4. All administrative costs are assumed to have basic and non-basic income and employment impacts. Section 8 Tenant and Project Based Rental Assistance and HOME Tenant Based Rental Assistance have basic *and* non-basic income effects, but only non-basic employment impacts.

5. Income, income taxes, and property taxes are computed in real 2001 dollars, but are expressed in this report as nominal dollars. This is due to the point-in-time impact coefficients drawn from the 1992 Census, and to create a time series, these were converted to real 2001 dollars by using the gross domestic product implicit price deflator. It is current through December 2001. When evaluating real value of program expenditures, deflators for the previous calendar year are assumed for the plan year. In other words, the deflator for the period ending December 31, 2001 is applied to the plan year ending March 31, 2002. In this way it is assumed that earnings per worker increase at the rate of inflation.

6. For the purpose of property tax valuations, 75 percent of CDBG rehab expenditures are considered equal to assessed value. One hundred percent of new construction is assumed as equal to assessed value. No distinctions are currently made between single-family and multifamily homes. All are considered single-family. The full 10-year LIHTC is assumed for property tax valuation purposes to be acquired in the first year.

7. One hundred percent of HOME funds used to fund privately owned projects are assumed to be equal to the assessed values. Fifty percent of the value of public and nonprofit facilities funded by HOME is assumed to equal assessed value. This latter data is to represent fees paid in lieu of taxes.

8. All housing units that pay property taxes, or fees in lieu of taxes, are assumed to continue paying these fees each year (at that year's effective property tax rate). The pool of properties once funded by these programs has grown over time. Properties upon which expenditures were made are assumed to increase in value at a rate equal to inflation. In other words, they remain at a constant real dollar amount.

9. Property tax rates for 2000 are held constant for 2001 and 2002, because 2001 and 2002 data were not available at the printing of this report.

10. Personal income tax rates for 2000 are used for computing 2001 and 2002 estimated tax payments. Payments are made by the Montana Adjusted Gross Income (MAGI) category. It is assumed that each worker only has earned income, which is equal to the MAGI. Therefore, these workers, as taxpayers, are equal to the average Montana taxpayer within the respective MAGI category.

SUMMARY

As program funds are spent, a portion of the expenditure becomes earnings for workers. The employees involved with the program activities are considered 'basic' employment and their earnings as 'basic' income. When these workers begin spending their income, this causes a predictable amount of non-basic economic activity, determined by the non-basic/basic multiplier, and results in additional employment and income. All people whose jobs have been created by the program activities, whether basic or non-basic, pay income taxes. The amount of tax each worker pays is equal to the applicable tax rate report by the Montana Department of Revenue for various levels of income. Furthermore, all properties have identifiable market values attributable to the program activities. These values are assumed taxed at the statewide effective average tax rate, thereby resulting in estimates of property taxes paid in the initial year and all subsequent years.

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